



BOOK REVIEW

Analytical Profiles of Drug Substances and Excipients, Volume 24, edited by H. G. BRITAIN, Academic Press, San Diego, 1996, 619 pp. U.S. \$99.00.

Volume 24 of this well-established series appears after a gap of 1 year, which the editor attributes to the fact that 'scientists seem to have less time available for scholarly contributions'. Fourteen drug substances and excipient materials are profiled for their physical and analytical characteristics and their uses. Each substance forms the basis of an individual chapter which has been written by specific experts in a systematic manner covering description, synthesis, physical properties, methods of analysis, stability, pharmacokinetics and pharmacology.

Drug substances appear in alphabetical order and the present volume includes a veritable pot-pourri including the terpenoids carbenoxolone sodium (semi-synthetic triterpene) and solasodine (steroidal alkaloid), the antibiotics clarithromycin (macrolide), mafenide acetate (sulphonamide), tobramycin (aminoglycoside), the polysaccharides guar gum, maltodextrin, starch, the polyvinyl compounds polyvinylalcohol, polyvinylpyrrolidone (crospovidone), the antidepressants fluvoxamine maleate, sertraline hydrochloride, the narcotic analgesic nalbuphine hydrochloride and the non-ionic contrast agent for magnetic resonance imaging, gadoteridol.

The spectral data is well-illustrated with figures of actual spectra including UV, IR, MS, ¹H- and ¹³C NMR, together with ²D ¹H-¹H and ¹H-¹³C COSY and ¹³C DEPT. Chromatographic profiles including TLC, GLC and HPLC are given together with quantitative methodology such as radioimmunoassay. Aspects of absorption, distribution, metabolism and excretion are detailed in the sections on pharmacokinetics whilst the sections on pharmacology include therapeutic indications (where applicable) and uses together with toxicity and side effects. Each chapter is well referenced.

At first glance it might appear that such a volume has little direct relevance to phytochemists, but a more detailed perusal does reveal that there are interesting

nuggets of information. Crospovidone (an insoluble form of polyvinylpyrrolidone) has pharmaceutical uses as a tablet excipient (disintegrant and binder), solubilising excipient to improve drug bioavailability as well as uses for the treatment of intestinal disorders and wounds. In addition, it is used as a clarifier of alcoholic and non-alcoholic beverages. Hazing of beers and wines is caused by reaction of proteins with oxidised polyphenols and reduction of the latter is achieved by binding with polyvinylpyrrolidone. Although this may appear to be a straightforward process considerable developmental work has been undertaken industrially to ensure that beverages reaching our tables are clear and bright; there are some 40 references to this particular section.

The applications of guar gum include pharmaceutical uses in tablets (binder, disintegrant), thickener of suspensions, sustained-release formulations and bioadhesives. Food uses include stabilising and thickening dairy, pet, bakery, condiment and beverage products.

Morphine continues to be used clinically for the treatment of severe pain and abused by drug addicts. Narcotic antagonists are needed for the acute reversal of excessive opioid effects, particularly respiratory depression. Nalmefene hydrochloride is a pure narcotic antagonist which finds clinical usefulness in reversing the effects of opioid agonists and owing to its longer duration of action it is administered as a single dose, a clear advantage over naloxone which must be administered by continuous intravenous infusion.

Doubtless this volume will be purchased by those who use this series and to those unfamiliar with the series it might act as a pointer to previous volumes, which are of considerable relevance to the pharmaceutical and food industries. A number of chapters in the present volume contain details which are of interest to phytochemists, and for all those who deal with national products there is a wealth of information on analytical aspects as well as a wide range of useful applications.

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